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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/038,956

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Rupal Parikh

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Timothy N. Trop
TROP, PRUNER & HU, P.C.
8554 KATY FWY., STE 100
HOUSTON, TX 77024-1805

EXAMINER

WONG, LINDA

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,956

Applicant(s)

PARIKH, RUPAL

Examiner

Linda Wong

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-9, 11-19 and 21-29 is/are rejected.
7) ☒ Claim(s) 10, 20 and 30 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 02 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/7/2005 have been fully considered but they are not persuasive.
2. The applicant indicates the prior art mentioned in the rejection of claim 1 refers to the ACK signal disclosed in Fig. 1. The examiner agrees the ACK signal is not an appropriate equivalent to the enable signal recited in claim 1. However, Alston does disclose an enabling signal to control the writing of the information to the buffer, synchronizing the enabling signal with the second clock and induces transferring of the plurality of data from a source location to a target location. Please review the rejections below.

Claim Rejections - 35 USC § 102

1. **Claims 1-3, 5-6, 11-13, 21-23, 25-26** are rejected under 35 U.S.C. 102(e) as being disclosed by Alston (US Patent No.: 6055285).
 - a. **Claim 1**, Alston discloses a data transferring system receiving a plurality of data (Fig. 2, label 120), detecting an enable signal in the first clocked domain to control writing (Fig. 2, labels 124 and 122) from a target to a source location (Fig. 1, label 102 and Fig. 2, label 110), synchronizing enabling signal with second clocked domain (Fig. 2, labels 122, 210, 212, Clock1 and Clock2, **Col. 8, lines 66-67, and Col. 9, lines 1-3**) and transferring data in response to the synchronized enable signal from the first clocked domain to the target location

in the second clocked domain (Fig. 1, label 214, 130 and 104). In regards to the applicant's arguments, the enabling signal disclosed by Alston has two parts. In Fig 2, label 124, the write enabling signal sent to the buffer initiates transfer of the information from the transmitting circuit to the buffer. In Fig. 2, label 122, the write address, location where the information should be written, is synchronized with the first and second clock signal. (Col. , lines) Both the write address and write enable act as a control to writing to the buffer from a source location to a target location.

- b. **Note: The rejections to claims 2-9, 11-19, 21-29 are unchanged.**
- c. **Claim 2**, Alston discloses a feedback signal to the first clocked domain indicating transmission of data and availability of second clocked domain. (Fig. 2, label 216 and Col. 9, lines 7-12)
- d. **Claim 3**, Alston discloses a first signal (Fig. 1, label 152), based on the enabling signal (Fig. 1, label 150), indicating arrival of the plurality of data units to the source location (Fig. 1, label 152 and Col. 6, lines 61-63), initializing a data transfer, which triggers writing to FIFO buffer and a write address pointer is sent to the read controller which indicates the buffer is in use and transferring data from the buffer to the receiving circuit should be performed after (Fig. 1, label 10, 130, 104, 122, 142, Col. 7, lines 64-67 and Col. 8, lines 1-10), generating a second signal (Fig. 2, label 214) indicating the synchronization of the enable signal (Fig. 2, label 122) with the second clock domain (Col. 8, lines 66-67, Col. 9, lines 1-3), in response to the second signal, initiating data transfer from the

- first clock domain to the second clock domain (Col. 7, lines 5-8), generating a third signal indicating transmission of the data for the first clocked domain on the initiation of the data transfer (Fig. 1, label 132) and in response to the third signal indicating availability of the second clocked domain (Col. 9, lines 7-12).
- e. **Claim 5**, Alston discloses a first register in the form of a transmitting circuit, which inherently discloses a register for storing data received (Fig. 1, label 102), an intermediate register (Fig. 1, label FIFO Buffer) which stores copies of the data in the first clocked domain, a second register in the second clocked domain (Fig. 1, label 104).
 - f. **Claim 6**, Alston discloses transferring data from the transmitting circuit to the FIFO buffer or intermediate register (Fig. 1, label 102, 120 and 100).
 - g. **Claim 11** inherits the limitations of claim 1. Alston discloses a data path coupling the first and second clocked domain (Fig. 1, label 120, 110, 130, 104), a data transferring system that contains a control path coupled to the data path (Fig. 2, labels 140, 216, 122, 210, 212, 214, 132, 142).
 - h. **Claim 12** inherits all the limitations of claim 2.
 - i. **Claim 13** inherits all the limitations of claim 3.
 - j. **Claim 21** inherits all the limitations of claim 1. Alston discloses a data transferring system, which comprised of components that perform a process as disclosed in the rejection of claim 1.
 - k. **Claim 22** inherits all the limitations of claim 2.
 - l. **Claim 23** inherits all the limitations of claim 3.

- m. **Claim 25** inherits all the limitations of claim 5.
- n. **Claim 26** inherits all the limitations of claim 6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 2. **Claims 4, 7-9, 14-19, 24, 27-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alston (US Patent No.: 6055285) in view of Adkins et al. (US Patent No.: 6865241).
 - a. **Claim 4**, Although Alston does not disclose a state machine, Adkins et al. disclose a state machine wherein the first signal (Fig. 3, label LD1) is generated to initialize the transferring of data. (Fig. 3, label LD1, Col. 14, 6-10 and lines 52-57) It would be obvious to one skilled in the art to synchronize the transferring of data with the inputted clock signal.
 - b. **Claim 7**, Although Alston does not disclose a state machine, Adkins et al. disclose a state machine handling switching of a clocking signal (Col. 14, lines 1-2) while asynchronously transferring data (Fig. 1, label clk and clkB) between a first and second clocked domain (Fig. 1, label clk, and clkB and Col. 9, lines 45-55) and inherently disclosed that the first and second clocked domain includes at least one independently clocked logic with respect to another

clocked logic. It would be obvious to one skilled in the art to synchronize the transferring of data with the inputted clock signal.

- c. **Claim 8**, Alston discloses a synchronizer for enabling an asynchronous data transfer between the first and second clocked domain. (Fig. 2, label 210 and 212)
- d. **Claim 9**, Although Alston does not disclose a state machine that can be used to drive the synchronizer disclosed by Alston, Adkins et al. disclose a state machine that enables an asynchronous data transfer (Fig. 1, label clk and clkB) between the first and second clocked domains. (Fig. 1, label clk, and clkB and Col. 9, lines 45-55) It would be obvious to one skilled in the art to provide a state machine that will drive a synchronizer to prevent loss of data. (Abstract, line 16)
- e. **Claim 14** inherits all the limitations of claim 4.
- f. **Claim 15** inherits all the limitations of claim 5.
- g. **Claim 16** inherits all the limitations of claim 6.
- h. **Claim 17** inherits all the limitations of claim 7.
- i. **Claim 18** inherits all the limitations of claim 8.
- j. **Claim 19** inherits all the limitations of claim 9.
- k. **Claim 24** inherits all the limitations of claim 4.
- l. **Claim 27** inherits all the limitations of claim 7.
- m. **Claim 28** inherits all the limitations of claim 8.
- n. **Claim 29** inherits all the limitations of claim 9.

Allowable Subject Matter

3. **Claims 10, 20, 30** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. Miyano (US Patent No.: 6624777)
 - b. Kwon (US Patent No.: 5768546)
 - c. Rozario et al (US Patent No.: 6345328)
 - d. Phi (US Patent No.: 6718449).
4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
5. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Art Unit: 2634

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linda Wong whose telephone number is 571-272-6044. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linda Wong



STEPHEN CHIN
SUPERVISORY PATENT EXAMINEE
TECHNOLOGY CENTER 2600